Arrow Timber Supply Area
Timber Supply Review

Summary of Public Input

BC Ministry of Forests
Arrow Forest District
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This is a summary of the public input received on the Timber Supply Review in the Arrow Timber Supply Area. This summary does not assess the feasibility or validity of the input or whether it relates to the clearly defined mandate of the chief forester in the allowable annual cut determination.

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Background

As part of the review of timber supply in the Arrow Timber Supply Area (TSA), two opportunities were provided for public input. The first followed release of the Arrow TSA *Data Package* and *Information Report* in January, 1999. The *Information Report* was a non-technical summary of the draft data and management assumptions that were to be applied in reviewing the timber supply for the Arrow TSA. A 30-day review period, ending February 22, 1999, was provided for the public to comment on these documents.

On April 13, 2000, the British Columbia Forest Service released the *Arrow Timber Supply Area Analysis Report* and *Public Discussion Paper*. The public was encouraged to review and comment on the accuracy of the information in these documents and to provide additional information during the 60-day review period that ended June 12, 2000.

This report summarizes the input received during both public review periods. This information was provided to the chief forester for his consideration when he reviewed the allowable annual cut (AAC) for the Arrow TSA. The first section of this summary outlines the public review process implemented by the Forest Service, and describes the types of public input received. The second section summarizes the public input in sufficient detail to indicate the range of input received. The original submissions (with personal identifiers removed in accordance with the *Freedom of Information and Protection of Privacy Act*) can be reviewed at the Arrow Forest District office.

Public Review Process and Response

Arrow District staff actively solicited public input on the Timber Supply Review in the Arrow TSA through the following actions:

- direct mail-out of approximately 80 copies of the *Information Report*, *Data Package*, *Analysis Report* and *Public Discussion Paper* to key organizations in the Arrow TSA or adjacent TSAs.
- the *Data Package* and *Analysis Report* were available at the district office and approximately 15 were picked up.
- meetings regarding both the *Data Package* and *Analysis Report* were held with local MLAs and forest industry representatives.
- information packages were sent to local governments, with an offer of presentations by district staff. None were requested.
- referrals were made to the Ministry of Forests website where documents were available to download.

As Table 1 shows, approximately seven individuals attended meetings or information sessions. The Arrow Forest District also received eight written submissions on the *Data Package* and eight submissions on the *Analysis Report* (see Appendix 1).

Participants (#)	Date
Elected officials	
MLAs (2)	Jan. 20/99 & Apr. 12/00
Interest groups	
Licensees (5)	Nov. 24/99, Jan. 26/00, Mar. 29/00 & June 1/00

Table 1: Participation in public information activities

Public Input

In this section, public input on the information presented in the Timber Supply Review documents for the Arrow TSA is summarized under the following headings:

- Data Package (and Information Report)
- Timber Supply Area Analysis Report (and Public Discussion Paper)
- Other comments

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Data Package

Land Base Factors

Three submissions question how the operable land base is defined for this timber supply analysis. The Arrow licensees' submission questions whether the operability line has been updated since the early 1990s, and offers new information on operability that has resulted from work in the Innovative Forest Practices Agreement (IFPA) area. The Interior Lumber Manufacturers' Association (ILMA) questioned the assumptions around areas described as 'N' under operability.

Two submissions suggest that current low pulp and lumber prices and the poor forecasts for recovery to higher prices indicate the need to lower the operability line, or at least the need for a sensitivity analysis. The Valhalla Wilderness Society (the Valhalla Society) suggests a more stable set of guidelines is needed to determine operability and provides a suggested approach. The Valhalla Society and the Slocan Valley Watershed Alliance (the Watershed Alliance) also question whether blocks that are to be added to the timber harvesting land base (THLB) as a result of the 1997 total chance plan are only from the eight landscape units considered in that plan. The Valhalla Society further questions whether proposed helicopter blocks were included in the THLB and whether they are truly proving to be operable.

The Valhalla Society points to the need to better define the alpine timber type and determine its potential contribution to timber supply. The Society also says a sensitivity analysis is needed to reflect the constrained contribution of domestic and community watersheds to the operable land base, due to public opposition and other constraints. They also expressed the opinion that currently deferred areas should be removed from the THLB.

The Watershed Alliance and the Valhalla Society say that although inventories of sites of cultural or archaeological value are not complete, at least the known sites should be protected with a buffer and modeled in the analysis.

Environmentally Sensitive Areas

The Arrow licensees' submission says it is their understanding terrain hazard surveys will supplement environmentally sensitive area (ESA) designations, not replace them, and suggests restrictions on the use of the data. The licensees say they recognize some additional area deductions may be needed to address sensitive terrain issues, but maintain the current approach is more conservative than the approach taken in other TSAs and TFLs in this Timber Supply Review. Specific concerns are detailed.

The Watershed Alliance expresses the opinion that the use of actual terrain hazard mapping is an improvement over the old ESA mapping, and that reductions from the land base for terrain hazard should be increased 10 to 20% to reflect current practice. The Valhalla Society says Class V sites should be 100% excluded from harvesting, Class IV should have a 40% reduction, and some Class III should be removed in a sensitivity analysis.

The Watershed Alliance and the Valhalla Society maintain that domestic watersheds are being managed as community watersheds in many instances in the Arrow TSA, and therefore the same ESA reductions should be applied to both types of watersheds to reflect current management.

Both organizations point to avalanches associated with harvesting, both pre- and post-Forest Practices Code requirements. The Watershed Alliance says ESA mapping needs to be updated and the ESA reductions for avalanches increased. The Valhalla Society says a finer screen is needed to determine avalanche sensitivity, and an inventory of land lost to avalanches throughout the TSA is required.

Low Productivity and Problem Types

The Arrow licensees note that the criteria for low productivity sites will result in 2,000 to 3,000 hectares of harvested area being removed from the THLB. They suggest maintaining the criteria but considering if previously logged areas can be included in the THLB.

The licensees question deductions relating to cedar-hemlock and mixed hemlock problem forest types. An individual submission says the timber in stands classed as problem forests should be utilized if possible instead of being left to rot or blow down.

Roads, Trails and Landings

The Arrow licensees say the deductions for existing landings and roads seem reasonable, but question if skid trails are portrayed accurately in the inventory data, and noting that the width of four metres may be excessive if, for example, trees are planted on each edge of the trail. The licensees says the deductions for future roads and landings are also reasonable, but the deduction for future trails seems very high. They provide comparisons with other TSAs and TFLs, and recommend a 1% deduction for future trails.

The Valhalla Society and the Watershed Alliance question if reductions for soil degradation include compaction from feller-bunchers and site preparation equipment, as well as landslides and debris torrents. The Watershed Alliance says the value for existing trails seems low given the lack of accurate representation of old trails in the inventory data base and the degree of productivity loss on those trails.

The Valhalla Society and the Watershed Alliance express the opinion that roads, trails and landings should not be removed from the land base, but modeled as early seral. These areas would then contribute to biodiversity requirements and the calculations of equivalent clearcut areas (ECAs) in watersheds, according to the Society.

An individual submission says a realistic number of key forest access roads should be left intact for public use, rather than being deactivated. It is this individual's opinion that if more logging on public land is desired, this would be an appropriate trade-off for the public good.

Volume Estimates

The Valhalla Society asks if any volume-ratio studies have been done and, if so, if they were incorporated into the analysis. The Society says that since forest companies regularly log the highest volume stands first, it follows that the remaining stands should have less volume.

The Watershed Alliance and the Valhalla Society express the opinion that modelling all harvesting as clearcut may inflate volume estimates, given that one-third of harvesting will be partial cuts. They say a better approach to modelling partial cutting is needed.
The ILMA and the Watershed Alliance question how Armillaria root disease is handled in the analysis, noting the chief forester's direction in the 1995 Rationale Statement to quantify the impacts of root disease. The ILMA also questioned any additional adjustments for root rots beyond what is already accounted for in the models used to project existing and managed stand yields.

The Watershed Alliance says operational adjustment factors (OAF2s) should be modeled in the analysis, not just treated as a sensitivity analysis. The Valhalla Society agrees, saying studies show losses to root rot and spruce terminal weevil are in the range of 25% in the Arrow TSA; therefore OAFs need to be adjusted and this change modeled in the analysis.

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Expected Rate of Growth

The Arrow licensees and the Interior Lumber Manufacturers' Association (ILMA) express the opinion that the results of the Old Growth Site Index study should be modelled in the base case, not just as a sensitivity analysis. The Watershed Alliance says the study results are not even appropriate for a sensitivity analysis given the lack of reliable data.

Minimum Harvestable Age

The Watershed Alliance and the Valhalla Society express the opinion that harvesting should not occur until stands reach the culmination age (when annual growth is maximized) in order to maximize the yield and economic benefit. Both organizations request a sensitivity analysis to test this approach.

The Arrow licensees note that the criteria used to define minimum harvestable age should produce ages similar to the last Timber Supply Review, which should be compatible with current practice. The licensees agree with the sensitivity analysis proposed (+/- 10 years) and note that in future, economics and technology may allow smaller piece sizes and lower volumes to be harvested. The ILMA notes the importance of this factor and request further detail and rationale.

Regeneration

The Arrow licensees say they agree that a two-year regeneration delay represents current practice but note that for modeling purposes, the age of the planted stock should be deducted.

The Watershed Alliance and the Valhalla Society say the present rate of restocking backlog not satisfactorily restocked (NSR) areas does not support the assumption that 70% of the backlog will be restocked within 10 years, particularly with reductions in Forest Renewal BC funding. The Watershed Alliance says backlog NSR areas should be removed from the THLB until they're restocked.

An individual submission says in an area of 754,000 hectares where a high rate of harvesting has been ongoing for many years, only 2,012 hectares of NSR seems deceptively low.

Visual Quality

The Arrow licensees request confirmation of the inclusion of visual corridors from the Kootenay Boundary Land Use Plan (KBLUP). The licensees note that cover requirements do not allow for a partial cutting allowance although numerous partial cuts have been done in visually important areas in recent years. The licensees recommend adjusting cover requirements upward and slope criteria downward.

The Valhalla Society and the Watershed Alliance express the opinion that the 2% rollback of timber supply impacts for visual quality will be opposed in the Slocan Valley for economic and social reasons. The alliance says more restrictive requirements consistent with those approved in previous public processes should be modelled.

Biodiversity

The Watershed Alliance requests a sensitivity analysis on immediate full implementation of older forest targets in low biodiversity emphasis areas. The alliance says the three-rotation delay in implementing these targets is unreasonably long and represents a threat to biodiversity. The Valhalla Society requests a sensitivity analysis of proportional representation of biodiversity seral stage requirements applied to each landscape unit.

With regard to landscape level biodiversity, the ILMA expresses the hope that the developing provincial process of landscape unit planning will be monitored and the Arrow process adjusted to be consistent, if needed.

Both the Valhalla Society and the Watershed Alliance say the assumption that non-contributing forests will age over time ignores events such as fire, insect infestation,

windthrow and landslides. They say the analysis should reflect natural patterns in the non-contributing forest. The two groups also maintain that in modelling old forest retention requirements the values for actual old forests present should be used, rather than using the numbers from the Biodiversity Guidebook which assume 12% of old forest isalready in Protected Areas in each biogeoclimatic unit.

The Valhalla Society and the Watershed Alliance submissions also say wildlife tree patches should not be counted as contributing to old forest requirements, as they are too small to contain interior forest conditions or other attributes necessary for an old forest.

Wildlife and Fish

Two submissions note the need to complete an inventory of goshawk and heron nests. The Watershed Alliance says the number of nests modelled should be increased by 50% to account for those not yet found.

The Valhalla Society notes that the ungulate winter range (UWR) inventory should be adjusted to include moose winter habitat. The Ministry of Environment (MoE) submission says the UWR mapping does include areas used by moose, although moose are not mentioned in the *Data Package*.

The ILMA says that since the KBLUP Implementation Strategy (KBLUP-IS) does not have legal standing, they would like to see assumptions regarding UWR compared to the forthcoming instructions for completing forest development plans, as well as a series of sensitivity analyses around feasible caribou management rules. The MoE submission maintains the Arrow Forest District does have legally defined UWR and an approved management strategy.

With regard to wildlife tree patches (WTPs), the Arrow licensees provide several reasons why an area reduction of 2% would be more reasonable. The ILMA asks to see evidence of WTP results and requests a comparison of the sample of silviculture prescriptions mentioned in the *Data Package* with a GIS process using the May 25, 1998, letter from the chief forester regarding the application of WTPs.

The Arrow licensees maintain that a list of regionally significant fish-bearing streams has not been completed nor have required management practices been defined. Therefore, forest cover requirements in the *Data Package* are not current management and should only be considered in a sensitivity analysis, according to the licensees. The MoE submission notes the necessity of recognizing measures to protect fish streams as current management.

Forest Cover Requirements

The Arrow licensees say the Integrated Resource Management requirements for maintaining 70% of the area in stands older than 40 years should be removed. They cite several reasons that this constraint is too conservative, concluding it could result in a significant reduction in harvest rate in the portion of the land base that is supposed to have the fewest non-timber values.

Riparian Management

The Arrow licensees say the riparian deduction is very significant and appears higher than what is experienced in practice. The licensees say most larger streams flow through private land, so the riparian deduction should be quite low. The ILMA requests information on the methodology used to determine the volumes affected by riparian reserves and management zones.

The Watershed Alliance says current practice is to provide buffers for small streams in domestic watersheds, similar to community watersheds. The Watershed Alliance and the Valhalla Society point to KBLUP-IS requirements for management of areas upstream of domestic water intakes. The Watershed Alliance says this should result in reductions from the THLB, while the Valhalla Society recommends a sensitivity analysis on the impacts of this policy.

Watershed Cover Requirements

Three submissions comment on the maximum allowable disturbance (or ECA, equivalent clearcut area) in watersheds. The Arrow licensees express agreement with basing these requirements on the condition of the entire Crown forest area, rather than just the THLB, but note that the allowable disturbances are much lower than those in the KBLUP. The licensees say other timber supply analyses have used less restrictive requirements (e.g., Cranbrook and Revelstoke TSAs) and provide some recommendations on revisions.

The Valhalla Society says the determination of ECA in any watershed must include the condition of private land. The Watershed Alliance says research by hydrologistschallenges the validity of using ECAs in watersheds, maintaining that each watershed requires detailed risk analysis.

Both the Valhalla Society and the Watershed Alliance also point to additional workwhich indicates that nine metres is likely insufficient for hydrologic green-up; a sensitivity analysis using increased standards such as a 12 metre green-up is requested. The Arrow licensees express the opinion that a green-up of six to seven metres is more representative of operational reality, allowing resumption of harvesting after partial hydrological recovery.

The ILMA questions the process and assumptions used to address hydrological concerns.

Harvest Scheduling

The Arrow licensees agree with using relative oldest first as the harvest scheduling rule for the analysis. The Watershed Alliance and the Valhalla Society say the model should reflect the age class mix being harvested, which would be a random mix of ages. The Alliance is of the opinion timber volumes will be inflated by modeling relative oldest first.

Non-Recoverable Losses

The Valhalla Society says the calculation of losses attributable to fire amounts to about 20 hectares per year. Given the catastrophic fires in the adjacent Kamloops Forest Region last year and the predicted effects of global climate change, the Society says this figure should be doubled. An individual submission states that using only unsalvaged loss figures understates the losses due to fire in the TSA.

The ILMA questions how loss factors were developed and how they will be modelled. The Watershed Alliance notes unsalvaged loss estimates should include the impacts of global warming and climate change.

Socio-Economic Objectives

The Watershed Alliance asks that the chief forester consider as a statement of local objectives the recently completed *Building a Healthy Valley Economy -- A Community Action Plan*, prepared for the Slocan Valley Community Economic Action Plan steering committee.

An individual submission says the first and most important objective is to provide enough wood to allow mills to operate at current levels because the economic viability of mills is critical to surrounding communities.

Another individual says the fact that the forest sector accounts for only 15% of the area's total employment and that the Castlegar pulpmill is operating under receivership proves something is very wrong. Due to highly mechanized logging methods, B.C. forests are being liquidated with very little employment gain and a very small margin of profit, according to this individual, and therefore export of logs and cants from the Arrow TSA or from the province should not be allowed.

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Timber Supply Area Analysis Report

Following release of the *Analysis Report*, the Arrow Forest Association (AFA), representing most forest licensees in the Arrow TSA, commissioned an alternative timber supply analysis. This analysis was based on an earlier one done under the IFPA, but was updated to use the same inputs as the Ministry of Forests' analysis. The AFA analysis then evaluates the timber supply impact of altering five inputs to the analysis:

- the operable land base was updated based on harvest history since 1991 (when operability lines were last revised), approved forest development plans and local knowledge. The use of the updated operability line reduced the size of the inoperable land base by 6.3%. The AFA requests that the revised operability information be considered as it reflects current practice.
- the land base reduction of 2% to account for future skid trails was eliminated. The AFA believes these trails will be rehabilitated in compliance with the Forest Practices Code and should not be removed from the harvesting land base.
- the approach to land base reductions to account for sensitive soils and terrain was modified from that used by the Ministry of Forests, which the AFA believes is an overly conservative approach.
- the results of the recently completed project *An Analysis of the Impact of Current and Planned Seed Orchard Program on Timber Flow in the Arrow TSA* were incorporated, resulting in future timber volume gains attributed to the use of genetically improved seed.
- a visually effective green-up height of five metres was applied (compared to the Ministry's analysis which uses six or seven metres), which the AFA believes is a more reasonable approximation for the Arrow TSA.

The alternative analysis then considers three forecasts, using different combinations of the above factors. Other than the benchmark forecast, which is the same as the *Analysis Report*'s base case forecast, the two other forecasts indicate the ability to maintain the current harvest level for three decades and to increase the mid- and long-term harvest levels by 9% and 7% respectively. According to the AFA, the alternative forecasts provide additional, technically defensible information to be considered during the AAC determination.

Other Comments

Several submissions comment on factors or issues other than those specifically covered by Timber Supply Review documents. These comments are summarized in this section.

First Nations

The submission from the Westbank First Nation says the Arrow TSA lands and resources fall within their traditional territory and form part of a land claim filed in 1993. All land use matters must be resolved through a process of negotiation and must be presented formally at a treaty-making table or other acceptable venue, according to this submission. The Westbank First Nation says it views the continued alienation of its aboriginal title and the infringement on its rights by the B.C. and Canadian governments as bad faith negotiations.

An individual submission expresses strong opposition to the alienation of resources inherent in First Nations claims against the land and resources of the Arrow TSA and other parts of the province.

Timber Supply Review Process

The ILMA says the absence of specific data in the *Data Package* makes it nard to evaluate, and notes various concerns regarding analysis units. Assumptions based on the KBLUP-IS should not be used in this analysis, as the plan does not have standing in law and these

assumptions could be legally challenged, according to the ILMA. The Valhalla Society says the plan and implementation strategy have been approved as a policy statement of government and questions whether they have formed part of current management practices in the analysis.

An individual submission says the *Data Package* and *Information Report* are technical and unappealing to the layperson. If meaningful input is desired, more attractive publications and an open house are needed, according to this submission.

Management Practices

An individual submission says B.C.'s highly mechanized approach to the liquidation of our forests must end and the focus shift to diversification, specialization, secondary manufacturing and value-added products to maximize returns from the forest resource. This individual questions practices such as whole tree skidding, pushover logging and run-away slash burns, and notes that logs should be milled as close as possible to their place of origin to minimize hauling over mountain passes.

Innovative Forest Practices Agreement

A submission from the Arrow IFPA licensees is provided as background information to show the strategic level projects being undertaken under the IFPA (improving the information base; evaluating short-term timber availability constraints and options; more accurate definition of the THLB; and maximizing the productivity of the land base, especially of regenerated stands). The report says the primary objective of the IFPA is to maintain the AAC and associated employment levels in the short and long term while maintaining or enhancing environmental values.

Harvest Levels

Given concerns and research on terrain stability in the Slocan Valley, the Valhalla Society questions if the present rate of cut in the Slocan Valley can be maintained.

The Watershed Alliance states its support for a reduction in the apportionment of the AAC to the Slocan Valley due to a number of factors including past harvesting history, the continuing contentious nature of logging in the valley's visual corridor and domestic watersheds, terrain instability problems, and the non-fulfillment of the chief forester's 1995 direction to identify appropriate harvest targets for areas in which harvesting has been avoided. The Watershed Alliance requests that the FRBC funded report 'Building A Healthy Valley Economy: A Community Action Plan' be considered as public input.

An individual submission says the AAC must allow mills to continue to operate at current levels, as their well-being is imperative to surrounding communities. The submission from the IFPA licensees notes that the IFPA's base case analysis shows the amount of available timber is almost equal to the current AAC.

Submissions from Slocan Forest Products Limited, Bell Pole Company, Kalesnikoff Lumber Co. Limited and Atco Lumber Limited indicated that they supported the forecast 'C' presented in the AFA technical submission.

Appendix 1

Submissions received by the Arrow Forest District

Submissions received on the Data Package

First Nations
Westbank First Nation, Chief Ron Derrickson

Government agencies
Ministry of Environment, Forest Ecosystem Specialist, Castlegar

Forest Industry
Arrow TSA Licensees
Interior Lumber Manufacturers' Association

Interest groups
Slocan Valley Watershed Alliance
Valhalla Wilderness Society

General Public
Two individual submissions

Submissions received on the Timber Supply Analysis Report

Forest Industry
Arrow IFPA/Arrow Forest Licence Group
Arrow Forest Association
Atco Lumber Limited
Bell Pole Company
Kalesnikoff Lumber Co. Limited
Riverside Forest Products Limited
Slocan Forest Products Limited